



# **STIC Search Report**

**EIC 1700**

STIC Database Tracking Number: 122251

**TO: Monique Wills**  
**Location: REM 6C21**  
**Art Unit : 1746**  
**May 19, 2004**

**Case Serial Number: 09/963800**

**From: Kathleen Fuller**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
**Phone: 571/272-2505**  
**Kathleen.Fuller@uspto.gov**

## **Search Notes**



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713
- Relevant prior art **found**, search results used as follows:
- ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)
- Relevant prior art **not found**:
- ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

**Comments:**

Drop off or send completed forms to EIC1700 REMSEN 4B28



## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Unique Mills Examiner #: 75068 Date: 5/17/01  
 Art Unit: 1746 Phone Number 301-272-1309 Serial Number: 09/063, 800  
 Mail Box and Bldg/Room Location: 1021 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract

Title of Invention: An electrochemical cell having a controlled electrode  
 Inventors (please provide full names): Eric S. Kolb, Denis G. Fanteux,  
Keichi Seki

Earliest Priority Filing Date: 9/26/2001

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>R. Fuller</u>	NA Sequence (R) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (R) _____	Dialing _____
Searcher Location: _____	Structure (R) <u>12</u>	Quoted/Unfil _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>5/19/01</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>20</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time _____	Patent Family _____	WWW/Internet _____
Online Time: <u>93</u>	Other _____	Other (specify) _____

=> FILE REG

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STRUCTURE FILE UPDATES: 18 MAY 2004 HIGHEST RN 683203-75-0  
 DICTIONARY FILE UPDATES: 18 MAY 2004 HIGHEST RN 683203-75-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

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Experimental and calculated property data are now available. For more  
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FILE COVERS 1907 - 19 May 2004 VOL 140 ISS 21  
 FILE LAST UPDATED: 18 May 2004 (20040518/ED)

This file contains CAS Registry Numbers for easy and accurate  
 substance identification.

=> D QUE

L38 11 SEA FILE=REGISTRY ABB=ON (108-32-7/BI OR 1121-07-9/BI OR  
 12190-79-3/BI OR 21324-40-3/BI OR 24937-79-9/BI OR 4166-53-4/BI  
 OR 57636-10-9/BI OR 7782-42-5/BI OR 78-59-1/BI OR 872-50-4/BI  
 OR 96-49-1/BI)  
 L39 6 SEA FILE=REGISTRY ABB=ON L38 AND 1-4/NR  
 L47 611 SEA FILE=REGISTRY ABB=ON METHYL AND OXA AND TRICYCLO AND  
 DIONE  
 L48 508 SEA FILE=REGISTRY ABB=ON L47 NOT PMS/CI  
 L49 253 SEA FILE=REGISTRY ABB=ON L48 AND 3/NR

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

L51 1 SEA FILE=REGISTRY ABB=ON L49 AND DEC(W)8(W)ENE  
 L79 430 SEA FILE=REGISTRY ABB=ON 197.10.1/RID  
 L80 1776 SEA FILE=REGISTRY ABB=ON 197.9.1/RID  
 L83 2460 SEA FILE=REGISTRY ABB=ON 180.93.1/RID  
 L85 212 SEA FILE=REGISTRY ABB=ON L83 AND 2/NR  
 L86 15 SEA FILE=REGISTRY ABB=ON L85 AND DIONE  
 L87 1 SEA FILE=REGISTRY ABB=ON L86 AND C7H8O4/MF  
 L88 284 SEA FILE=REGISTRY ABB=ON (L79 OR L80) AND DIONE  
 L89 208 SEA FILE=REGISTRY ABB=ON L88 AND 1(W)8(W)8(W)TRIMETHYL  
 L90 37 SEA FILE=REGISTRY ABB=ON L89 AND 2/NR  
 L91 3 SEA FILE=REGISTRY ABB=ON L90 AND C10H14O3/MF  
 L94 1 SEA FILE=REGISTRY ABB=ON L39 AND C5H7NO2/MF  
 L96 1 SEA FILE=REGISTRY ABB=ON L39 AND C9H14O/MF  
 L97 1 SEA FILE=REGISTRY ABB=ON L39 AND C6H8O3/MF  
 L99 8 SEA FILE=REGISTRY ABB=ON L94 OR L96 OR L97 OR L51 OR L87 OR  
 L91 *Compound in claim 1*  
 L100 3560 SEA FILE=HCAPLUS ABB=ON L99  
 L102 23 SEA FILE=HCAPLUS ABB=ON L100 AND BATTER?  
 L103 11 SEA FILE=HCAPLUS ABB=ON L102 AND (ELECTRODE? OR CATHODE? OR  
 ANODE?)  
 L105 5 SEA FILE=HCAPLUS ABB=ON L100 AND ELECTROCHEM?(5A)CELL#  
 L106 12 SEA FILE=HCAPLUS ABB=ON L105 OR L103

=&gt; D L106 ALL HITSTR 1-12

L106 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:279778 HCAPLUS

DN 138:306802

ED Entered STN: 11 Apr 2003

TI Secondary nonaqueous electrolyte **battery**

IN Morishima, Hideaki; Ota, Hideo; Yamada, Shuji

PA Toshiba Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAP

DT Patent

LA Japanese

IC ICM H01M010-40

ICS H01M004-58

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FI JP 2003109661	A2	<u>20030411</u>	JP 2001-298618	<u>20010927</u>
PRAI JP 2001-298618		20010927		

AB The bat tery has a nonaq. electrolyte solution containing a cyclic organic compound,

having an endo bridge structure, between its **cathode** and **anode**. The **cathode** may be a substituted Li Mn oxide, and the cyclic compound may be a heterocyclic or condensed ring compound

ST secondary lithium **battery** electrolyte endo bridge cyclic compdIT **Battery** electrolytes

(electrolyte solns. containing endo bridge cyclic compds. for secondary lithium **batteries**)

IT 12190-79-3, Cobalt lithium oxide (CoLiO2) 136479-44-2, Lithium magnesium manganese oxide (Li1.05Mg0.05Mn1.9O4)

RL: DEV (Device component use); USES (Uses)

(cathodes in secondary lithium **batteries** with*Battery*

electrolyte solns. containing endo bridge cyclic compds.1)  
 IT 96-49-1, Ethylene carbonate 623-53-0, Ethyl methyl carbonate  
 21324-40-3, Lithium hexafluorophosphate  
 RL: DEV (Device component use); USES (Uses)  
 (electrolyte solns. containing endo bridge cyclic compds. for secondary  
 lithium **batteries**)  
 IT 826-62-0 24327-08-0  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (electrolyte solns. containing endo bridge cyclic compds. for secondary  
 lithium **batteries**)  
 IT 826-62-0  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (electrolyte solns. containing endo bridge cyclic compds. for secondary  
 lithium **batteries**)  
 RN 826-62-0 HCAPLUS  
 CN 4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro- (9CI) (CA INDEX  
 NAME)



L106 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:40243 HCAPLUS

DN 138:76172

ED Entered STN: 17 Jan 2003

TI Nonaqueous secondary **battery**

IN Murai, Tetsuya; Mukai, Hiroshi

PA Japan Storage Battery Co., Ltd., Japan

SO Eur. Pat. Appl., 18 pp.

CODEN: EPKXDW

DT Patent

LA English

IC ICM H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FI	EP 1276165	A1	20030115	EP 2002-15551	20020711
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2003031259	A2	<u>20030131</u>	JP 2001-211767	20010712
	JP 2003151623	A2	<u>20030523</u>	JP 2001-348541	20011114
	CN 1398013	A	<u>20030219</u>	CN 2002-140953	20020711
	US 2003054259	A1	20030320	US 2002-192688	<u>20020711</u>
PRAI	JP 2001-211767	A	20010712		
	JP 2001-348541	A	20011114		
OS	MARPAT 138:76172				
GI					

*not date*



I

- AB A nonaq. secondary cell includes the following elements: a pos. **electrode** capable of absorbing and releasing lithium; a neg. **electrode** capable of absorbing and releasing lithium; and a nonaq. electrolyte including a nonaq. solvent and a lithium salt dissolved therein wherein the electrolyte contains a vinyl ethylene carbonate compound represented by the general formula (I); wherein R1, R2, R3, R4, R5, and R6 represent each independently a hydrogen atom or an alkyl group having from 1 to 4 carbon atoms, and furthermore contains at least a compound selected from the group consisting of vinylene carbonate, a cyclic sulfonic acid ester or a cyclic sulfuric acid ester, and an acid anhydride.
- ST **battery** nonaq electrolyte secondary
- IT Anhydrides  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (cyclic; nonaq. electrolyte lithium secondary **battery**)
- IT Sulfonic acids, uses  
 RL: DEV (Device component use); USES (Uses)  
 (esters, cyclic; nonaq. electrolyte lithium secondary **battery**)
- IT Secondary **batteries**  
 (lithium; nonaq. electrolyte lithium secondary **battery**)
- IT **Battery** electrolytes  
 (nonaq. electrolyte lithium secondary **battery**)
- IT Carbonaceous materials (technological products)  
 RL: DEV (Device component use); USES (Uses)  
 (nonaq. electrolyte lithium secondary **battery**)
- IT Lactones  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (nonaq. electrolyte lithium secondary **battery**)
- IT 96-48-0,  $\gamma$ -Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 542-52-9, Dibutyl carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate  
 RL: DEV (Device component use); USES (Uses)  
 (nonaq. electrolyte lithium secondary **battery**)
- IT 85-42-7, Cyclohexanedicarboxylic anhydride 85-43-8, 4-Cyclohexene-1,2-dicarboxylic acid anhydride 108-30-5, Succinic anhydride, uses 108-31-6, Maleic anhydride, uses 108-55-4, Glutaric anhydride 616-02-4, Citraconic anhydride 826-62-0, 5-Norbornene-2,3-dicarboxylic anhydride 872-36-6, Vinylene carbonate 1120-71-4, 1,3-Propanesultone 1131-15-3, Phenylsuccinic anhydride 1633-83-6, 1,4-Butanesultone 2426-02-0, 3,4,5,6-TETRAHYDROPHthalic ANHYDRIDE 2959-96-8, 2-Phenylglutaric anhydride 3289-23-4 4427-96-7, Vinyl ethylene carbonate 4480-83-5, Diglycolic anhydride 7664-93-9D, Sulfuric acid, ester, cyclic 478784-91-7, Ethylene glycol sulfate  
 RL: MOA (Modifier or additive use); USES (Uses)

(nonaq. electrolyte lithium secondary **battery**)RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Anon; PATENT ABSTRACTS OF JAPAN 1992, V016(312), PE-1230  
 (2) Anon; PATENT ABSTRACTS OF JAPAN 2001, V2000(16)  
 (3) Anon; PATENT ABSTRACTS OF JAPAN 2002, V2002(06)  
 (4) At Battery Kk; JP 2002042865 A 2002 HCAPLUS  
 (5) Hinohara, A; JP 2002158035 A 2002 HCAPLUS  
 (6) Ken-Ichi, I; WO 02056408 A 2002 HCAPLUS  
 (7) Matsushita Electric Ind Co Ltd; WO 0103228 A 2001 HCAPLUS  
 (8) Matsushita Electric Ind Co Ltd; EP 1146586 A 2001 HCAPLUS  
 (9) Matsushita Electric Ind Co Ltd; EP 1174940 A 2002 HCAPLUS  
 (10) Matsushita Electric Ind Co Ltd; EP 1199765 A 2002 HCAPLUS  
 (11) Mitsubishi Chem Corp; JP 2002190316 A 2002 HCAPLUS  
 (12) Mitsubishi Chemicals Corp; JP 2001006729 A 2001 HCAPLUS  
 (13) Sanyo Electric Co Ltd; JP 04087156 A 1992 HCAPLUS  
 (14) Satoh, A; US 2002086216 A1 2002
- IT 826-62-0, 5-Norbornene-2,3-dicarboxylic anhydride  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (nonaq. electrolyte lithium secondary **battery**)
- RN 826-62-0 HCAPLUS
- CN 4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro- (9CI) (CA INDEX NAME)



1106 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:716911 HCAPLUS

DN 137:235278

ED Entered STN: 20 Sep 2002

TI Process for fabricating continuously coated **electrodes** on a porous current collector and **battery** designs incorporating the **electrodes**

IN Gan, Hong; Takeuchi, Esther S.; Rubino, Robert S.

PA USA

SO U.S. Pat. Appl. Publ., 12 pp.  
 CODEN: USXXCO

DT Patent

LA English

IC ICM H01M004-54  
 ICS H01M004-58; H01M004-50; H01M004-52; H01M004-62; H01M004-70  
 429241000

NCL 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002132167	A1	20020919	US 2002-96040	20020312
JP 2002367601	A2	20021220	JP 2002-118546	20020314
PRAI US 2001-276098P	P	20010315		

AB The invention is directed to an **electrochem. cell**

*Not date*



having at least one of its **electrodes** produced by coating a slurry mixture of an active material, possibly a conductive additive, and a binder dispersed in a solvent and contacted to a perforated current collector foil. It is particularly important that the active slurry does not move through the perforations of the current collector. For this reason, a barrier is placed against the opposite side of the current collector to block the perforations as the current collector is being coated with the slurry. After volatilizing the solvent, a second, different active material is coated to the opposite side of the current collector, either as a slurry, a pressed powder, a pellet or a free standing sheet. An example of this is a **cathode** having a configuration of: SVO/current collector CFX. The opposed active materials on the current collector can also be of the same chemical

- ST **battery** continuously coated **electrode** porous current collector
- IT Fluoropolymers, uses  
Natural rubber, uses  
Polyimides, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(binder; process for fabricating continuously coated **electrodes** on porous current collector and **battery** designs incorporating **electrodes**)
- IT Secondary **batteries**  
(lithium; process for fabricating continuously coated **electrodes** on porous current collector and **battery** designs incorporating **electrodes**)
- IT **Battery electrodes**  
Primary **batteries**  
Secondary **batteries**  
(process for fabricating continuously coated **electrodes** on porous current collector and **battery** designs incorporating **electrodes**)
- IT Carbonaceous materials (technological products)  
RL: DEV (Device component use); USES (Uses)  
(process for fabricating continuously coated **electrodes** on porous current collector and **battery** designs incorporating **electrodes**)
- IT Alloys, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(substrate; process for fabricating continuously coated **electrodes** on porous current collector and **battery** designs incorporating **electrodes**)
- IT 74-85-1D, Ethylene, fluorinated 115-07-1D, Propylene, fluorinated 9002-84-0, Ptfе 9002-88-4, Polyethylene 9003-07-0, Polypropylene 24937-79-9, Pvdф  
RL: MOA (Modifier or additive use); USES (Uses)  
(binder; process for fabricating continuously coated **electrodes** on porous current collector and **battery** designs incorporating **electrodes**)
- IT 1313-13-9, Manganese dioxide, uses 1344-70-3, Copper oxide 7782-42-5, Graphite, uses 11105-02-5, Silver vanadium oxide 11115-78-9, Copper sulfide 11126-12-8, Iron sulfide 12031-65-1, Lithium nickel oxide 11102 12039-13-3, Titanium sulfide (TiS2) 12057-17-9, Lithium manganese oxide 11102 12068-85-8, Iron disulfide 12190-79-3, Cobalt lithium oxide 11102 12789-09-2, Copper vanadium oxide 51311-17-2, Carbon fluoride 131344-56-4, Cobalt lithium nickel oxide 181183-66-4, Copper silver vanadium oxide 256650-80-3, Cobalt lithium tin oxide Co0.92LiSn0.0802

RL: DEV (Device component use); USES (Uses)  
(process for fabricating continuously coated **electrodes** on  
porous current collector and **battery** designs incorporating  
**electrodes**)

IT 66-12-2, Dmf, uses 78-59-1, Isophorone 78-93-3, Methyl ethyl  
ketone, uses 108-88-3, Toluene, uses 108-94-1, Cyclohexanone, uses  
127-19-5, Dimethylacetamide 872-50-4, n-Methyl-2-pyrrolidone, uses  
7732-18-5, Water, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(solvent; process for fabricating continuously coated  
**electrodes** on porous current collector and **battery**  
designs incorporating **electrodes**)

IT 7429-90-5, Aluminum, uses 7440-02-0, Nickel, uses 7440-32-6, Titanium,  
uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 12597-68-1,  
Stainless steel, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(substrate; process for fabricating continuously coated  
**electrodes** on porous current collector and **battery**  
designs incorporating **electrodes**)

IT 78-59-1, Isophorone

RL: TEM (Technical or engineered material use); USES (Uses)  
(solvent; process for fabricating continuously coated  
**electrodes** on porous current collector and **battery**  
designs incorporating **electrodes**)

RN 78-59-1 HCAPLUS

CN 2-Cyclohexen-1-one, 3,5,5-trimethyl- (8CI, 9CI) (CA INDEX NAME)



L106 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:595389 HCAPLUS

DN 137:143072

ED Entered STN: 09 Aug 2002

TI Secondary **battery** having a controlled **electrode**  
surface

IN Kolb, Eric S.; Fauteux, Denis G.; Seki, Keiichi  
FA USA

SO U.S. Pat. Appl. Publ., 18 pp., Cont.-in-part of U.S. Ser. No. 362,147,  
abandoned.

CODEN: USXXCO

DT Patent

LA English

IC ICM H01M004-62

NCL 429212000

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002106560	Al	20020808	US 2001-963800	20010926

KATHLEEN FULLER EIC 1700 REMSEN 4B26 571/272-2505

*applicant*

PRAI US 1999-362147 B2 19990728

OS MARPAT 137:143072

AB The present invention relates to an **electrochem. cell** having a controlled **electrode** surface, comprising: a first **electrode** and a second **electrode** wherein at least one of the first and second **electrodes** has a carbonaceous surface; an electrolyte containing at least one solvent; an additive associated with the carbonaceous surface of at least one of the first and second **electrodes**, wherein the additive comprises a compound having a mol. weight of >105.

ST **battery** controlled **electrode** surface; electrolyte passivating additive **battery**

IT Secondary **batteries**  
(lithium; secondary **battery** having controlled **electrode** surface)

IT **Battery anodes**  
**Battery cathodes**  
**Battery electrolytes**  
(secondary **battery** having controlled **electrode** surface)

IT Carbon black, uses  
Fluoropolymers, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(secondary **battery** having controlled **electrode** surface)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 7782-42-5, Graphite, uses 12190-79-3, Cobalt lithium oxide colio2 21324-40-3, Lithium hexafluorophosphate  
RL: DEV (Device component use); USES (Uses)  
(secondary **battery** having controlled **electrode** surface)

IT 78-59-1, Isophorone 1121-07-9 4166-53-4, 4-Methyl-tetrahydropyran-2,6-dione 24937-79-9, Polyvinylidene fluoride 57636-10-9  
RL: MOA (Modifier or additive use); USES (Uses)  
(secondary **battery** having controlled **electrode** surface)

IT 872-50-4, n-Methyl-2-pyrrolidone, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(secondary **battery** having controlled **electrode** surface)

IT 78-59-1, Isophorone 1121-07-9 4166-53-4, 4-Methyl-tetrahydropyran-2,6-dione  
RL: MOA (Modifier or additive use); USES (Uses)  
(secondary **battery** having controlled **electrode** surface)

RN 78-59-1 HCAPLUS

CN 2-Cyclohexen-1-one, 3,5,5-trimethyl- (8CI, 9CI) (CA INDEX NAME)



RN 1121-07-9 HCAPLUS  
 CN 2,5-Pyrrolidinedione, 1-methyl- (9CI) (CA INDEX NAME)



RN 4166-53-4 HCAPLUS  
 CN 2H-Pyran-2,6(3H)-dione, dihydro-4-methyl- (9CI) (CA INDEX NAME)



L106 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:487887 HCAPLUS  
 DN 137:49707  
 ED Entered STN: 28 Jun 2002  
 TI Battery cell separator and fabrication process  
 IN Fabrice, Coustier; Bradford, Richard  
 PA Polystor Corporation, USA  
 SO PCT Int. Appl., 32 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM H01M  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002050929	A2	20020637	WO 2001-US49773	20011220
WO 2002050929	A3	20030501		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OC, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002110732	A1	20020815	US 2000-745910	20001220
AU 2002041681	A5	20020701	AU 2002-41681	20011220
FRAI US 2000-745910	A	20001220		
WO 2001-US49773	W	20011220		

AB Provided are alternative fabrication methods and compns. for an

**electrochem. cell separator.** The methods of the present invention are applicable to the manufacture of polymer-cased lithium-ion secondary battery cells. They are particularly, but not exclusively, applicable to manufacturing scale processes of fabricating polymer-cased lithium-ion secondary battery cells. Briefly, the present invention provides an **electrochem. cell separator fabrication** process wherein a binder is applied to a porous battery separator material. Binder solns. in accordance with the present invention, are formulated with a low boiling/high solubility (good) solvent and a higher boiling/no or low solubility (bad) solvent to dissolve the binder and coat it on the separator. When the separator is subsequently dried by evaporation of the solvents, a porous coating of binder is formed on the separator material.

- ST battery cell separator fabrication process  
 IT Secondary battery separators  
     (battery cell separator and fabrication process)  
 IT Alcohols, uses  
     Aromatic hydrocarbons, uses  
     Hydrocarbons, uses  
     RL: TEM (Technical or engineered material use); USES (Uses)  
         (battery cell separator and fabrication process)  
 IT Fluoropolymers, uses  
     Polyoxyalkylenes, uses  
     Polyurethanes, uses  
     RL: MOA (Modifier or additive use); USES (Uses)  
         (binder; battery cell separator and fabrication process)  
 IT Solvents  
     (chlorinated; battery cell separator and fabrication process)  
 IT Glycols, uses  
     RL: TEM (Technical or engineered material use); USES (Uses)  
         (ethers; battery cell separator and fabrication process)  
 IT Ethers, uses  
     RL: TEM (Technical or engineered material use); USES (Uses)  
         (glycol; battery cell separator and fabrication process)  
 IT Secondary batteries  
     (lithium; battery cell separator and fabrication process)  
 IT 79-38-9  
     RL: MOA (Modifier or additive use); USES (Uses)  
         (battery cell separator and fabrication process)  
 IT 56-23-5, Carbon tetrachloride, uses 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-64-1, Acetone, uses 67-68-5, Dmsol, uses 68-12-2, Dmf, uses 71-43-2, Benzene, uses 78-40-0, Triethyl phosphate 78-59-1, Isophorone 78-93-3, Methyl ethyl ketone, uses 79-01-6, Trichloroethylene, uses 96-48-0, Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-10-1, Methyl isobutyl ketone 108-21-4, Isopropyl acetate 108-32-7, Propylene carbonate 108-83-8, Diisobutyl ketone 108-88-3, Toluene, uses 108-90-7, Chlorobenzene, uses 108-94-1, Cyclohexanone, uses 109-66-0, Pentane, uses 109-99-9, Thf, uses 110-54-3, Hexane, uses 112-15-2, Carbital acetate 123-42-2, Diacetone alcohol 123-86-4, n-Butyl acetate 124-18-5, Decane 127-18-4, Tetrachloroethylene, uses 127-19-5, Dimethyl acetamide 131-11-3, Dimethyl phthalate 141-97-9, Ethyl acetoacetate 512-56-1, Trimethyl phosphate 616-38-6, Dimethyl carbonate 632-22-4, Tetramethyl urea 872-50-4, n-Methylpyrrolidone, uses 1330-20-7, Xylene, uses  
     RL: TEM (Technical or engineered material use); USES (Uses)  
         (battery cell separator and fabrication process)  
 IT 116-15-4, Hexafluoropropylene 2274-11-5 9002-84-0, Ptf 9003-05-8,

Polyacrylamide 9003-20-7, Polyvinylacetate 9003-21-8,  
 Polymethylacrylate 9003-39-8, Polyvinylpyrrolidone 24937-79-9, Pvdh  
 25014-41-9, Polyacrylonitrile 25322-68-3, Pco  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (binder; battery cell separator and fabrication process)  
 IT 78-59-1, Isophorone  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (battery cell separator and fabrication process)  
 RN 78-59-1 HCAPLUS  
 CN 2-Cyclohexen-1-one, 3,5,5-trimethyl- (8CI, 9CI) (CA INDEX NAME)



L106 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:466583 HCAPLUS  
 DN 137:35545  
 ED Entered STN: 21 Jun 2002  
 TI Use of heat-treated **electrodes** containing a polyamic acid-PVDF  
 binder mixture  
 IN Palazzo, Marcus; Takeuchi, Esther S.  
 PA USA  
 SO U.S. Pat. Appl. Publ., 14 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM H01M004-62  
 NCL 429217000  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002076611	A1	20020620	US 2001-995202	<u>20011127</u>
EP 1221732	A2	20020710	EP 2001-310020	<u>20011129</u>
EP 1221732	A3	20020717		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2002260668	A2	20020913	JP 2001-402306	20011129
PRAI US 2000-253972P	P	20001129		
AB A mixture of polymeric binders that is insol. in nonaq. organic electrolytes activating alkali metal or alkali metal ion <b>electrochem.</b> cells, is described. The mixed binder formulation provides <b>electrodes</b> that are flexible and non-brittle, and cells incorporating the <b>electrodes</b> are dischargeable at elevated temps. A preferred binder formulation is a mixture of polyvinylidene and polyimide binders.				
ST <b>battery</b> heat treated <b>electrode</b> polyamic acid PVDF binder mixt				
IT Polyamides, uses				

Polyazomethines  
 Polycarbonates, uses  
 Polyesters, uses  
 Polyethers, uses  
 Polyketones  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (binder, fluorinated; use of heat-treated **electrodes** containing  
 polyamic acid-PVDF binder mixture)  
 IT Fluoropolymers, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (binder; use of heat-treated **electrodes** containing polyamic  
 acid-PVDF binder mixture)  
 IT Fluoropolymers, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (flexible, rubber; use of heat-treated **electrodes** containing  
 polyamic acid-PVDF binder mixture)  
 IT Epoxy resins, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fluorinated, binder; use of heat-treated **electrodes** containing  
 polyamic acid-PVDF binder mixture)  
 IT Thermoplastic rubber  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fluorinated, rubber; use of heat-treated **electrodes** containing  
 polyamic acid-PVDF binder mixture)  
 IT Silicone rubber, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fluorine-containing, binder; use of heat-treated **electrodes**  
 containing polyamic acid-PVDF binder mixture)  
 IT Acetals  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (formals, polymers, binder, fluorinated; use of heat-treated  
**electrodes** containing polyamic acid-PVDF binder mixture)  
 IT Fluoro rubber  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (hexafluoropropene-tetrafluoroethylene-vinylidene fluoride, binder; use  
 of heat-treated **electrodes** containing polyamic acid-PVDF binder  
 mixture)  
 IT Fluoro rubber  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (hexafluoropropene-vinylidene fluoride, binder; use of heat-treated  
**electrodes** containing polyamic acid-PVDF binder mixture)  
 IT Secondary batteries  
 (lithium; use of heat-treated **electrodes** containing polyamic  
 acid-PVDF binder mixture)  
 IT Epoxy resins, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (methacrylates, fluorinated, binder; use of heat-treated  
**electrodes** containing polyamic acid-PVDF binder mixture)  
 IT Heterocyclic compounds  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (nitrogen, five-membered, polymers, binder, fluorinated; use of  
 heat-treated **electrodes** containing polyamic acid-PVDF binder  
 mixture)  
 IT Perfluoro compounds  
 Vinyl compounds, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (perfluoroalkyl vinyl ether polymers, tetrafluoroethylene copolymer  
 with, binder; use of heat-treated **electrodes** containing polyamic

- acid-PVDF binder mixture)
- IT Fluoro rubber  
RL: MOA (Modifier or additive use); USES (Uses)  
(perfluoroalkyl vinyl ether-tetrafluoroethene, binder; use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT Fluoro rubber  
RL: MOA (Modifier or additive use); USES (Uses)  
(perfluoroalkyl vinyl ether-tetrafluoroethylene-vinylidene fluoride, binder; use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT Ethers, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(perfluoroalkyl vinyl, polymers, tetrafluoroethylene copolymer with, binder; use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT Synthetic rubber, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(phosphazene, fluorinated, rubber; use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT Fluoro rubber  
RL: MOA (Modifier or additive use); USES (Uses)  
(propylene-tetrafluoroethylene, binder; use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT Fluoro rubber  
RL: MOA (Modifier or additive use); USES (Uses)  
(silicone, binder; use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT Fluoro rubber  
RL: MOA (Modifier or additive use); USES (Uses)  
(tetrafluoroethylene-vinylidene fluoride, binder; use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT **Battery electrodes**  
Binders  
Primary **batteries**  
Secondary **batteries**  
(use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT Carbonaceous materials (technological products)  
Polyamic acids  
Polyimides, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)
- IT 116-14-3D, Tetrafluoroethylene, copolymer with perfluorovinylalkyl vinyl ether 9002-83-9, Polychlorotrifluoroethylene 9002-84-0, Ptf 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 24937-79-9, Pwdf 24980-67-4, Polytrifluoroethylene 24981-14-4, Polyvinyl fluoride 25038-71-5, Ethylene-tetrafluoroethylene copolymer 25067-11-2, Hexafluoropropylene-tetrafluoroethylene copolymer 25101-45-5, Ethylene-chlorotrifluoroethylene copolymer 25120-07-4, Polyhexafluoropropylene 49717-97-7D, 2-Propenoic acid, 2-methyl-, ion(1-), homopolymer, fluorinated 64239-72-1, 2-Propenoic acid, 2-fluoro-homopolymer 149643-29-8, Fluoroethylene-vinyl ether copolymer 437609-78-4D, fluorinated  
RL: MOA (Modifier or additive use); USES (Uses)  
(binder; use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)



IT 108-32-7, Propylene carbonate 110-71-4 11105-02-5, Silver vanadium oxide 29935-35-1, Lithium hexafluoroarsenate  
 RL: DEV (Device component use); USES (Uses)  
 (use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)

IT 68-12-2, Dmf, uses 78-59-1, Isophoron 108-88-3, Toluene, uses 108-94-1, Cyclohexanone, uses 127-19-5, n,n-Dimethylacetamide 872-50-4, n-Methylpyrrolidone, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)

IT 78-93-3, Methyl ethyl ketone, uses 7732-18-5, Water, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)

IT 78-59-1, Isophoron  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (use of heat-treated **electrodes** containing polyamic acid-PVDF binder mixture)

RN 78-59-1 HCAPLUS  
 CN 2-Cyclohexen-1-one, 3,5,5-trimethyl- (8CI, 9CI) (CA INDEX NAME)



L106 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:407256 HCAPLUS

DN 137:8606

ED Entered STN: 31 May 2002

TI Nonaqueous electrolyte solution and secondary **battery** using the solution

IN Hinohara, Akio; Matsuoka, Osamu

PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01M010-40

ICS H01M004-02; H01M004-58

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002158035	A2	20020531	JP 2000-353543	20001120
PRAI	JP 2000-353543		20001120		

AB The electrolyte solution has reduction peak intensities  $\leq 200 \mu\text{A}/\text{cm}^2$  between 0.3-0.6 V at 25°, on its 1st scan on its cyclovoltammogram scanned at 10 mV/s between 0 and 3 V, using a highly oriented pyrolytic graphite working **electrode** and a Li reference **electrode**.  
 Preferably, the electrolyte solution contains additives selected compound

*best date*

having a norbornene structure and/or benzenesulfonic acid derivs. The **battery** is a secondary Li **battery**.

ST secondary lithium **battery** electrolyte soln cyclovoltammogram redn peak; norbornene additive lithium **battery** electrolyte; benzenesulfonic acid deriv lithium **battery** electrolyte additive

IT **Battery** electrolytes  
(norbornene and benzenesulfonic acid derivative additives in nonaq. electrolyte solns. for secondary lithium **batteries**)

IT 96-49-1, Ethylene carbonate 623-53-0, Ethyl methyl carbonate 4427-96-7, Vinylethylene carbonate 21324-40-3, Lithium hexafluorophosphate

RL: DEV (Device component use); USES (Uses)  
(norbornene and benzenesulfonic acid derivative additives in nonaq. electrolyte solns. for secondary lithium **batteries**)

IT 81-08-3 121-53-9D, m-Sulfobenzoic acid, dipotassium salt

**926-62-0** 58601-47-1

RL: MOA (Modifier or additive use); USES (Uses)  
(norbornene and benzenesulfonic acid derivative additives in nonaq. electrolyte solns. for secondary lithium **batteries**)

IT **926-62-0**

RL: MOA (Modifier or additive use); USES (Uses)  
(norbornene and benzenesulfonic acid derivative additives in nonaq. electrolyte solns. for secondary lithium **batteries**)

RN **926-62-0** HCAPLUS

CN 4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro- (9CI) (CA INDEX NAME)



L106 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:469502 HCAPLUS

DN 135:79415

ED Entered STN: 29 Jun 2001

TI Secondary lithium **batteries** suppressing gas generation

IN Yamamoto, Masaki; Seki, Keiichi; Onuki, Masamichi

PA Mitsubishi Chemical Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKKXAF

DT Patent

LA Japanese

IC ICM HOLM010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

B.D.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JF 2001176550	A2	20010629	JP 1999-362391	19991221
PRAI	JP 1999-362391		19991221		
AB	The <b>batteries</b> comprise nonfluidizable electrolytes at least at a place in contact with $\geq 1$ <b>electrodes</b> , and the electrolytes contain ketones. The ketones inhibit generation of gases at the				

electrode/electrolyte interface.

ST lithium **battery** ketone electrolyte inhibition gas generation;  
polymer electrolyte lithium **battery** ketone additive

IT Polymer electrolytes  
(**battery**; secondary Li **batteries** containing ketones in  
nonfluidizable electrolytes)

IT Secondary **batteries**  
(lithium; secondary Li **batteries** containing ketones in  
nonfluidizable electrolytes)

IT **Battery** electrolytes  
(nonfluidizable; secondary Li **batteries** containing ketones in  
nonfluidizable electrolytes)

IT Ketones, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(secondary Li **batteries** containing ketones in nonfluidizable  
electrolytes)

IT 21324-40-3P, Lithium hexafluorophosphate  
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP  
(Preparation); USES (Uses)  
(electrolyte solute; secondary Li **batteries** containing ketones in  
nonfluidizable electrolytes)

IT 96-49-1P, Ethylene carbonate 108-32-7P, Propylene carbonate  
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP  
(Preparation); USES (Uses)  
(electrolyte solvent; secondary Li **batteries** containing ketones  
in nonfluidizable electrolytes)

IT 7439-93-2DP, Lithium, complex with polymer, uses 173390-60-8DP, lithium  
complex  
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP  
(Preparation); USES (Uses)  
(electrolyte; secondary Li **batteries** containing ketones in  
nonfluidizable electrolytes)

IT **78-59-1**, Isophorone 93-08-3, 2'-Acetonaphthone 98-53-3  
108-10-1, 4-Methyl-2-pentanone 108-94-1, Cyclohexanone, uses 110-13-4,  
Acetylacetone 120-92-3, Cyclopentanone 123-19-3, 4-Heptanone  
502-42-1, Cycloheptanone 539-88-8, Ethyl levulinate 583-60-8,  
2-Methylcyclohexanone 589-92-4, 4-Methylcyclohexanone 591-24-2,  
3-Methylcyclohexanone 637-88-7, 1,4-Cyclohexanedione 930-30-3,  
2-Cyclopenten-1-one 930-68-7, 2-Cyclohexen-1-one 2758-18-1,  
3-Methyl-2-cyclopenten-1-one 4894-75-1, 4-Phenylcyclohexanone  
6705-49-3, 7-Oxabicyclo[4.1.0]heptan-2-one 7429-44-9,  
2-Methoxycyclohexanone 79419-30-0  
RL: MOA (Modifier or additive use); USES (Uses)  
(secondary Li **batteries** containing ketones in nonfluidizable  
electrolytes)

IT **78-59-1**, Isophorone  
RL: MOA (Modifier or additive use); USES (Uses)  
(secondary Li **batteries** containing ketones in nonfluidizable  
electrolytes)

RN 78-59-1 HCAFLUS

CN 2-Cyclohexen-1-one, 3,5,5-trimethyl- (8CI, 9CI) (CA INDEX NAME)



L106 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:145039 HCAPLUS

DN 134:195748

ED Entered STN: 28 Feb 2001

TI **Batteries with carbonaceous electrodes with controlled surface, additives for surface control, and electrolytes containing the additives**

IN Kolb, Eric S.; Fauteux, Denis G.

PA Mitsubishi Chemical Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAP

DT Patent

LA Japanese

IC ICM H01M004-62

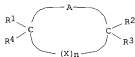
ICS H01M004-04; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

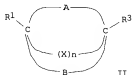
Section cross-reference(s): 24, 27

FAN.CNT 2

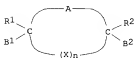
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001057214	A2	20010227	JP 2000-225250	20000726
PRAI	US 1999-362147	A	19990728		
GI					

*Parent*

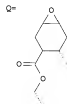
I



II



III



- AB The **battery** comprises 2 **electrodes**, at least one of which having a carbonaceous material surface treated with additives, and an electrolyte solution. The additives are cyclic compds. I, II, or III (n = 0, 1, 2, 3; R1-4, Ra-c, R, R11-18 = H, C1-12 linear or branched alkyl; A = CO<sub>2</sub>CO, CONR<sub>2</sub>CO, CO<sub>2</sub>, NRC, CH<sub>2</sub>CO<sub>2</sub>, SO<sub>2</sub>NR<sub>2</sub>CO, etc.; X = groups same as A, C1-12 linear or branched alkyl, NR, O; B = groups same as A, CR11R18CR16R17CR14R15CR12R13, CR11R16C:(R15)CR14CR12R13, Q, etc.; B = H, C1-12 linear or branched alkyl, Q). Electrolytes containing solvents, Li salts, and I, II, or III are also claimed. The **batteries** show excellent cycle characteristics and show not gas generation during storage.
- ST **battery** carbonaceous **electrode** isophorone additive
- IT **Battery** electrolytes
- Secondary **batteries**
- {(bi)cyclo compds. as additives for carbonaceous **electrodes** in secondary **batteries** with excellent cycle characteristics}
- IT **Battery** **electrodes**
- {carbonaceous; (bi)cyclo compds. as additives for carbonaceous **electrodes** in secondary **batteries** with excellent cycle characteristics}
- IT 76-32-4 78-59-1, Isophorone 108-30-5, Succinic anhydride, uses 1121-07-9 2386-87-0 3425-89-6 4166-53-4 98546-44-2
- RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
- {(bi)cyclo compds. as additives for carbonaceous **electrodes** in secondary **batteries** with excellent cycle characteristics}
- IT 76-32-4 78-59-1, Isophorone 1121-07-9 4166-53-4 98546-44-2
- RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
- {(bi)cyclo compds. as additives for carbonaceous **electrodes** in secondary **batteries** with excellent cycle characteristics}
- RN 76-32-4 HCAPLUS
- CN 3-Oxabicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl- (9CI) (CA INDEX NAME)



- RN 78-59-1 HCAPLUS
- CN 2-Cyclohexen-1-one, 3,5,5-trimethyl- (8CI, 9CI) (CA INDEX NAME)



RN 1121-07-9 HCAPLUS  
CN 2,5-Pyrrolidinedione, 1-methyl- (9CI) (CA INDEX NAME)



RN 4166-53-4 HCAPLUS  
CN 2H-Pyran-2,6(3H)-dione, dihydro-4-methyl- (9CI) (CA INDEX NAME)



RN 98546-44-2 HCAPLUS  
CN Furo[2,3-b]furan-2,5(3H,4H)-dione, dihydro-6a-methyl- (9CI) (CA INDEX NAME)



L106 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:814764 HCAPLUS  
DN 133:352697  
ED Entered STN: 21 Nov 2000  
TI Method of fabricating a laminated lithium-ion secondary battery  
cell  
IN Coustier, Fabrice  
PA Polystor Corporation, USA  
SO PCT Int. Appl., 31 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC H01M006-00; H01M004-58

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

B.D.

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000069010	A1	20001116	WO 2000-US12445	20000505
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RM: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 1999-133057P	P	19990506		
AB	Provided are alternative fabrication methods for a lithium-ion secondary battery cell. Briefly, the present invention provides processes wherein a binder is applied to a battery separator after winding or stacking the electrodes. This is accomplished by soaking previously wound or stacked electrochem. structures, including pos. and neg. electrodes and a porous separator, in a solution containing a binder.				
ST	battery cell laminated fabrication; lithium battery cell laminated fabrication				
IT	Fluoropolymers, uses Polyoxoalkylenes, uses Polyurethanes, uses RL: TEM (Technical or engineered material use); USES (Uses) (binder; method of fabricating laminated lithium-ion secondary battery cell)				
IT	Glycols, uses RL: TEM (Technical or engineered material use); USES (Uses) (esters, solvent; method of fabricating laminated lithium-ion secondary battery cell)				
IT	Glycols, uses Glycols, uses RL: TEM (Technical or engineered material use); USES (Uses) (ethers, solvent; method of fabricating laminated lithium-ion secondary battery cell)				
IT	Ethers, uses Ethers, uses RL: TEM (Technical or engineered material use); USES (Uses) (glycol, solvent; method of fabricating laminated lithium-ion secondary battery cell)				
IT	Secondary batteries (lithium; method of fabricating laminated lithium-ion secondary battery cell)				
IT	2274-11-5, Ethylene Glycol diacrylate 9002-84-0, Ptfе 9003-05-8, Polyacrylamide 9003-20-7, Polyvinyl acetate 9003-21-8, Polymethyl acrylate 9003-39-8, Polyvinylpyrrolidone 24937-79-9, Pvdф 25014-41-9, Polyacrylonitrile 25322-68-3, Pco RL: TEM (Technical or engineered material use); USES (Uses) (binder; method of fabricating laminated lithium-ion secondary battery cell)				
IT	7429-90-5, Aluminum, uses RL: DEV (Device component use); USES (Uses) (polymer laminated; method of fabricating laminated lithium-ion				

secondary **battery** cell)

IT 56-23-5, Carbon tetrachloride, uses 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-64-1, Acetone, uses 67-68-5, DmsO, uses 68-12-2, Dmf, uses 71-43-2, Benzene, uses 78-40-0, Triethyl phosphate 78-59-1, Isophorone 78-93-3, Methyl ethyl ketone, uses 79-01-6, Trichloroethylene, uses 96-48-0, Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-10-1, Methyl isobutyl ketone 108-21-4, Isopropyl acetate 108-32-7, Propylene carbonate 108-83-8, Diisobutyl ketone 108-88-3, Toluene, uses 108-90-7, Chlorobenzene, uses 108-94-1, Cyclohexanone, uses 109-66-0, Pentane, uses 109-99-9, Thf, uses 110-54-3, Hexane, uses 112-15-2, Carbitol acetate 123-42-2, Diacetone alcohol 123-86-4, n-Butyl acetate 124-18-5, Decane 127-18-4, Tetrachloroethylene, uses 127-19-5, Dimethyl acetamide 131-11-3, Dimethyl phthalate 141-97-9, Ethyl acetoacetate 512-56-1, Trimethyl phosphate 616-38-6, Dimethyl carbonate 632-22-4, Tetramethyl urea 872-50-4, n-Methylpyrrolidone, uses 1330-20-7, Xylene, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(solvent; method of fabricating laminated lithium-ion secondary **battery** cell)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Gozdz; US 5456000 A 1995 HCAPLUS
- (2) Schmutz; US 5470357 A 1995 HCAPLUS
- (3) Venugopal; US 5853916 A 1998 HCAPLUS

IT 78-59-1, Isophorone

RL: TEM (Technical or engineered material use); USES (Uses)  
(solvent; method of fabricating laminated lithium-ion secondary **battery** cell)

RN 78-59-1 HCAPLUS

CN 2-Cyclohexen-1-one, 3,5,5-trimethyl- (8CI, 9CI) (CA INDEX NAME)



L106 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2004 ACS ON STN

AN 2000:219069 HCAPLUS

DN 132:239423

ED Entered STN: 05 Apr 2000

TI Secondary **battery** having a controlled **electrode** surface and associated fabrication and chemical process

IN Kolb, Eric S.; Van Buren, Martin; Fautoux, Denis G.

PA Mitsubishi Chemical Corporation, Japan

SO U.S., 8 pp., Cont.-in-part of U.S. 5,853,917.

CODEN: USXXAM

DT Patent

LA English

IC ICM H01M010-34

NCL 429059000

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

*already  
applied  
the  
refers  
or errors  
by present  
amendment*



Section cross-reference(s): 72

FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6045930	A	20000404	US 1998-178846	19981026
	US 6045917	A	19981229	US 1997-812021	19970306
	JP 10302836	A2	19981113	JP 1998-50379	19980303
	US 6168878	B1	20010102	US 1998-208895	19981210
PRAI	US 1997-812021	A2	19970306		
	US 1998-178846	A2	19981026		

AB An electrochem. cell includes a controlled electrode surface comprising an electrode with a carbonaceous surface, an electrolyte and a reduced additive. The reduced additive is formulated from an additive which is either soluble or insol. in the solvated electrolyte prior to reduction. The invention further includes a passivating layer at the carbonaceous electrode/electrolyte interface. The passivating layer includes the additive and/or the reduced additive. This passivating layer substantially precludes contact between electrolyte solvent and the carbonaceous surface of the electrode to, in turn, substantially prevent gas formation within the cell, which would otherwise result from decomposition of the solvent upon contact with the carbonaceous surface. Also, the additive and/or the reduced additive will likewise be substantially precluded from generating a gas upon its decomposition.

ST lithium battery controlled electrode surface

IT Secondary batteries

(lithium; secondary battery having controlled electrode surface and associated fabrication and chemical process)

IT Battery anodes

(secondary battery having controlled electrode surface and associated fabrication and chemical process)

IT 7440-50-8, Copper, uses

RL: DEV (Device component use); USES (Uses)

(anode grid; secondary battery having controlled electrode surface and associated fabrication and chemical process)

IT 7782-42-5, Graphite, uses

RL: DEV (Device component use); USES (Uses)

(anode; secondary battery having controlled electrode surface and associated fabrication and chemical process)

IT 108-32-7, Propylene carbonate 7439-93-2, Lithium, uses 29935-35-1, Lithium hexafluoroarsenate

RL: DEV (Device component use); USES (Uses)

(secondary battery having controlled electrode surface and associated fabrication and chemical process)

IT 76-32-4 85-43-8 100-42-5, Styrene, uses 108-30-5, uses

2386-87-0 4281-21-4 6053-68-5 19780-11-1 23911-25-3

RL: MOA (Modifier or additive use); USES (Uses)

(secondary battery having controlled electrode surface and associated fabrication and chemical process)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; JP 72-20756 1995

(2) Anon; JP 82-73700 1996

(3) Shu; US 5529859 1996 HCAPLUS

(4) Simon; US 5626981 1997 HCAPLUS

IT 76-32-4

RL: MOA (Modifier or additive use); USES (Uses)

(secondary battery having controlled electrode surface and associated fabrication and chemical process)

surface and associated fabrication and chemical process)

RN 76-32-4 HCAPLUS

CN 3-Oxabicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl- (9CI) (CA INDEX NAME)



L106 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:640250 HCAPLUS

DN 131:245597

ED Entered STN: 08 Oct 1999

TI Additives containing **batteries** and their manufactureIN Kolb, Eric S.

PA Mitsubishi Chemical Industries Ltd., USA

SO Jpn. Kokai Tokkyo Koho, 34 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC H01M010-04; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11273707	A2	19991008	JP 1999-34452	19990212
PRAI	US 1998-23690		19980213		

AB The **batteries** have a 1st and a 2nd **electrodes** with  $\geq 1$  of the **electrodes** having a carbonaceous surface, an electrolyte containing  $\geq 1$  solvent associated with the carbonaceous **electrode** surface, and an additive in the electrolyte or either or both **electrodes**; where the additive includes means preventing  $\geq 1$  solvent of the electrolyte from contacting the carbonaceous **electrode** surface, to prevent gas generation from the decomposition of the solvent, and means to increase wettability of the carbonaceous **electrode** surface to increase **battery** capacity. The **batteries** are prepared by adding the additive to the electrolyte in the **battery** and charging the **battery**, to react the additive with the carbonaceous **electrode** surface.

ST **battery** additive electrolyte **electrode** reaction inhibitor

IT Carbonaceous materials (technological products)

RL: DEV (Device component use); USES (Uses)

(additives for preventing electrolyte solvent-**electrode** reactions in lithium **batteries** with carbonaceous **electrodes**)

IT Secondary **batteries**

(lithium; additives for preventing electrolyte solvent-**electrode** reactions in lithium **batteries** with carbonaceous **electrodes**)

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IT 108-32-7, Propylene carbonate 29935-35-1, Lithium hexafluoroarsenate  
 RL: DEV (Device component use); USES (Uses)  
 (additives for preventing electrolyte solvent-electrode  
 reactions in lithium batteries with carbonaceous  
 electrodes)

IT 98546-44-2  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (additives for preventing electrolyte solvent-electrode  
 reactions in lithium batteries with carbonaceous  
 electrodes)

IT 7782-42-5, Graphite, uses  
 RL: DEV (Device component use); USES (Uses)  
 (additives for preventing electrolyte solvent-electrode  
 reactions in lithium batteries with graphite anodes  
 )

IT 98546-44-2  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (additives for preventing electrolyte solvent-electrode  
 reactions in lithium batteries with carbonaceous  
 electrodes)

RN 98546-44-2 HCAPLUS  
 CN Furo[2,3-b]furan-2,5(3H,4H)-dione, dihydro-6a-methyl- (9CI) (CA INDEX  
 NAME)



=> FILE REG  
 FILE 'REGISTRY' ENTERED AT 17:44:07 ON 19 MAY 2004  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
 COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file  
 provided by InfoChem.

STRUCTURE FILE UPDATES: 18 MAY 2004 HIGHEST RN 683203-75-0  
 DICTIONARY FILE UPDATES: 18 MAY 2004 HIGHEST RN 683203-75-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when  
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
 information enter HELP PROP at an arrow prompt in the file or refer  
 to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> D L99 1-8

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*The compounds*

L99 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 98546-44-2 REGISTRY  
CN **Furo[2,3-b]furan-2,5(3H,4H)-dione, dihydro-6a-methyl-** (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Glutaric acid, 3-(1,1-dihydroxyethyl)-, di-γ-lactone (6CI)  
OTHER NAMES:  
CN NSC 151768  
FS 3D CONCORD  
MF **C7 H8 O4**  
CI COM  
SR CAOLD  
LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT  
(\*File contains numerically searchable property data)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

9 REFERENCES IN FILE CA (1907 TO DATE)  
9 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L99 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN **4166-53-4** REGISTRY  
CN 2H-Pyran-2,6(3H)-dione, dihydro-4-methyl- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Glutaric anhydride, 3-methyl- (6CI, 7CI, 8CI)  
OTHER NAMES:  
CN β-Methylglutaric anhydride  
CN β-Methylglutaryl anhydride  
CN 3-Methylglutaric anhydride  
CN 4-Methyltetrahydropyran-2,6-dione  
FS 3D CONCORD  
DR 114912-73-1  
MF **C6 H8 O3**  
CI COM  
LC STN Files: BEILSTEIN\*, BIOBUSINESS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHM, MODOC\*, IFICDB, IFIPAT, IFIUDB, SPECINFO, TOXCENTER, USPAT2, USPATFULL  
(\*File contains numerically searchable property data)  
Other Sources: EINECS\*\*  
(\*Enter CHEMLIST File for up-to-date regulatory information)



## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

147 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 147 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L99 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 1121-07-9 REGISTRY  
 CN 2,5-Pyrrolidinedione, 1-methyl- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Succinimide, N-methyl- (6CI, 7CI, 8CI)  
 OTHER NAMES:  
 CN 1-Methyl-2,5-pyrrolidinedione  
 CN N-Methyl-2,5-pyrrolidinedione  
 CN N-Methylsuccinimide  
 CN NSC 11324  
 FS 3D CONCORD  
 MF C5 H7 N O2  
 CI COM  
 LC STN Files: BEILSTEIN\*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,  
 CHEMINFORMRX, CHEMLIST, CSChem, DETHERM\*, Gmelin\*, HODOC\*, IFICDB,  
 IFIPAT, IFIUDB, RTECS\*, SPECINFO, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

242 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 244 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 26 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L99 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 826-62-0 REGISTRY  
 CN 4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro- (9CI)  
 (CA INDEX NAME)  
 OTHER CA INDEX NAMES:

CN 5-Norbornene-2,3-dicarboxylic anhydride (6CI, 8CI)  
 OTHER NAMES:  
 CN 2-Norbornene-5,6-dicarboxylic anhydride  
 CN 3,6-Endomethylenephthalic anhydride, 1,2,3,6-tetrahydro-  
 CN 3,6-Endomethylenetetrahydrophthalic anhydride  
 CN 3,6-Methano-4-cyclohexene-1,2-dicarboxylic acid anhydride  
 CN 3,6-Methylene-1,2,3,6-tetrahydrophthalic anhydride  
 CN 4-Oxatricyclo[5.2.1.0<sup>2,6</sup>]dec-8-ene-3,5-dione  
 CN 5-Norbornene-2,3-dicarboxylic acid anhydride  
 CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic anhydride  
 CN cis-3,6-Endomethylene-1,2,3,6-tetrahydrophthalic anhydride  
 CN Endomethylenetetrahydrophthalic anhydride  
 CN HIMIC  
 CN NSC 3999  
 FS 3D CONCORD  
 DR 66075-60-3  
 MF C9 H8 O3  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,  
 CHEMINFORMRX, CHEMLIST, CSChem, GMELIN\*, HODOC\*, IFICDB, IFIPAT, IFIUDB,  
 MSDS-OHS, RTECS\*, SPECINFO, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

532 REFERENCES IN FILE CA (1907 TO DATE)  
 130 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 534 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 25 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L99 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 595-31-3 REGISTRY  
 CN 3-Oxabicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl-, (1S,5R)-  
 (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 1,3-Cyclopentanedicarboxylic anhydride, 1,2,2-trimethyl-, (+)- (8CI)  
 CN 3-Oxabicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl-, (1S)-  
 OTHER NAMES:  
 CN (-)-Camphoric anhydride  
 CN L-Camphoric anhydride  
 FS STEREOSEARCH  
 MF C10 H14 O3  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, CASREACT, CHEMLIST, HODOC\*, IFICDB,  
 IFIPAT, IFIUDB, RTECS\*, USPAT2, USPATFULL

(\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

11 REFERENCES IN FILE CA (1907 TO DATE)  
 11 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L99 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 595-29-9 REGISTRY  
 CN 3-Oxabicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl-, (1R,5S)-  
 (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 1,3-Cyclopentanedicarboxylic anhydride, 1,2,2-trimethyl-, (-)- (8CI)  
 CN 3-Oxabicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl-, (1R)-  
 OTHER NAMES:  
 CN D-(\*)-Camphoric anhydride  
 CN D-Camphoric anhydride  
 CN NSC 80512  
 FS STEREOSEARCH  
 MF C10 H14 O3  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSChem,  
 IFICDB, IFIPAT, IFIUDB, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

27 REFERENCES IN FILE CA (1907 TO DATE)  
 27 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L99 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 70-59-1 REGISTRY  
 CN 2-Cyclohexen-1-one, 3,5,5-trimethyl- (8CI, 9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN  $\alpha$ -Isophoron  
 CN  $\alpha$ -Isophorone  
 CN 1,1,3-Trimethyl-3-cyclohexene-5-one  
 CN 1,5,5-Trimethyl-3-oxocyclohexene  
 CN 1-Cyclohexen-3-one, 1,5,5-trimethyl-  
 CN 3,5,5-Trimethyl-2-cyclohexen-1-one  
 CN 3,5,5-Trimethyl-2-cyclohexene-1-one  
 CN 3,5,5-Trimethyl-2-cyclohexenone  
 CN Isoacetophorone  
 CN Isoforon  
 CN Isophoron  
 CN Isophorone  
 CN NSC 403657  
 CN NSC 4881  
 FS 3D CONCORD  
 MF C9 H14 O  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, DIPPR\*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HODOC\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM\*, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL, VTB  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2492 REFERENCES IN FILE CA (1907 TO DATE)  
 20 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 2493 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 23 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L99 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 76-32-4 REGISTRY  
 CN 3-Oxabicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl- (9CI) (CA INDEX NAME)



OTHER CA INDEX NAMES:

CN Camphoric anhydride (6CI, 7CI, 8CI)

OTHER NAMES:

CN (±)-Camphoric anhydride

CN dl-Camphoric anhydride

CN DL-Camphoric anhydride

CN NSC 4559

CN NSC 60293

CN NSC 657821

FS 3D CONCORD

DR 595-30-2

MF C10 H14 O3

CI COM

LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST,  
CSCHEM, DETHERM\*, HODOC\*, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPAT2,  
USPATFULL

(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

117 REFERENCES IN FILE CA (1907 TO DATE)

5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

117 REFERENCES IN FILE CAPLUS (1907 TO DATE)

10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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